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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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EXAMINER

HECKENBERG JR, DONALD H

ART UNIT PAPER NUMBER

1722

DATE MAILED: 10/23/2002

24

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/395,894

Examiner

Donald Heckenberg

Applicant(s)

BUAZZA ET AL.

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#23

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on the RCE filed on July 22, 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 95-106, 141-152, 154-159, 161, 163-171, 178-182 and 184-202 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 159, 161, 163-171, 178-182, 184-188 and 200-202 is/are allowed.
- 6) ☒ Claim(s) 95-101, 103-106, 141-146, 148-152, 156, 157, 189 and 190 is/are rejected.
- 7) ☒ Claim(s) 102, 147, 154, 155, 158 and 191-199 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 22. 6) ☐ Other:

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1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 22, 2002 has been entered.

2. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claims 190-203 have been renumbered as 189-202 because there was no claim 189 previous to these claims being added in the last amendment to the application.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. The factual inquiries set forth in Graham v. John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35

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U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 95-99, 103-106, 148-152, 156 and 189-190 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buazza et al. (US Pat. No. 5,415,816; previously of record) in view of Baskerville et al. (US Pat. No. 4,576,766; previously of record).

Buazza teaches a first mold member having a casting face and a non-casting face and a second mold member having a casting face and a non-casting face, the second mold member being adapted to be spaced apart from the first mold member during use such that the casting faces of the first mold member and the second mold member at least partially define a mold cavity (see fig. 6). Buazza further teaches a lens forming composition adapted disposed in the molding cavity comprising a monomer that cures by exposure to activating light to form the eyeglass lens during use, a photoinitiator that initiates curing of the monomer in response to being exposed to activating light having a wavelength in a range of 300-400 nm during use (see col. 14, ln. 64 - col. 15, ln. 9). Buazza also teaches a first light generator directing light toward the first mold member and adapted to generate activating light at a wavelength in the

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photoinitiator wavelength range to cure the lens forming composition and a second light generator directing light toward the second mold member and generating activating light (see fig. 3 and col. 14, ln. 64 - col. 15, ln. 9). Buazza further specifies the monomer to comprise a polyethylenic-functional monomer containing ethylenically unsaturated groups selected from acrylyl and methacrylyl (col. 13, lns. 22-24), or an aromatic containing bis(allyl carbonate)-functional monomer (col. 2, lns. 56-58). Buazza also further teaches a cooler for cooling the mold cavity, the cooler comprising a distributor to apply cold air to the mold cavity and remove heat during use (col. 19, ln. 51 - col. 20, ln. 8, and col. 20, lns. 48-49). Buazza et al. further teach the use of a filter positioned between the first light generator and at least one of the mold members for reducing the intensity of the light upon the lens forming composition (col. 4, ln. 27 - col. 5, ln. 28). It is noted that Buazza et al. teach the use of a filter made from frosted Pyrex glass (col. 4, ln. 60), which is substantially translucent to light.

Buazza fails to teach the lens forming composition to comprise a light absorbing compound that substantially absorbs light. Buazza also fails to teach a controller to control light generators as such that pulsed activating light is produced.

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Baskerville teaches a lens-forming composition comprising a light absorbing compound for the purpose of producing a lens which blocks UV light (col. 1, lns. 5-10, and col. 2, lns. 65-67). Baskerville further teach the use of pulsed activating light to cure the polymers in the production of a lens for the purpose of varying the intensity and the temperature of the irradiation reaching the curing composition (col. 3, lns. 34-38).

It would have been obvious to one of ordinary skill in the art at the time of the Applicant's invention to have modified the system of Buazza as such to have the lens-forming composition further comprise a light absorbing compound like the one taught by Baskerville because this would allow for the production of a lens which blocks UV light. It further would have been obvious to one of ordinary skill in the art at the time of the Applicant's invention to have modified the apparatus of Buazza as such to have controlled the light generators as such to produce pulsed activating light because this would have allowed for the varying the intensity and temperature of the irradiation which is necessary for particular curing processes as suggested by Baskerville.

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7. Claims 100 and 151-152 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buazza modified by Baskerville as applied to claims 95-99, 103-106, 148-152, and 156 above, and further in view of Costanza (US Pat. No. 4,077,858; previously of record).

Buazza and Baskerville teach the system as described above, including the use of an initiator such as benzoin methyl ether (col. 13, ln. 53). Buazza and Baskerville fail to teach the use of a co-initiator acted upon by a first polymer chain radical, and that forms a second polymer chain radical with the monomer.

Costanza teaches ultraviolet radiation initiated polymerizations, wherein benzoin ethers are used as photoinitiators along with organic amine co-initiators for the purpose of enhancing the rate of polymerization (col. 6, lns. 26-31).

It would have been obvious to one of ordinary skill in the art at the time of the Applicant's invention to have modified the system of Buazza and Baskerville as such to have used an amine co-initiator with the photoinitiator benzoin methyl ether as suggest by Costanza because this would enhance the rate of polymerization. It is noted that such a system would inherently be as such that the photoinitiator would form a first polymer chain radical that would react with the amine co-initiator to

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form a first polymer chain radical, and the co-initiator would in turn react with the monomer.

8. Claims 101 and 157 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buazza modified by Baskerville as applied to claim 95-99, 103-106, 148-152, and 156 above, and further in view of Portney et al. (US Pat. No. 4,842,782; previously of record).

Buazza and Baskerville teach the system as described above including specifically the use of a filter positioned between the first light generator and at least one of the mold members for reducing the intensity at different points of the lens molding material (col. 4, ln. 27 - col. 5, ln. 28). Buazza et al. fail to teach the use of a "hazy" filer.

Portney teaches the use of a hazy filter in the light induced curing of lens compositions for the purpose of creating a filter with different transparencies of light at different points in the molding composition (col. 3, lns. 15-21).

It would have been obvious to one of ordinary skill in the art at the time of the Applicant's invention to have modified the system of Buazza and Baskerville as such to have used a hazy filter because this would allow for the creation of different light intensities at different portions of lens forming material

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which is advantageous to some curing processes as suggested by Portney.

9. Claims 141-142, and 144-145 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buazza modified by Baskerville as applied to claim 95-99, 103-106, 148-152, and 156 above, and further in view of Tarshiani et al. (US Pat. No. 5,422,046; previously of record).

Buazza and Baskerville teach the system as described above. Buazza and Baskerville fail to teach a temperature sensor configured to measure changes in the temperature of the lens forming composition, and a controller being configured to adjust a dose of initiating light reaching the cavity as a function of the changes in the temperature of the lens forming composition measured by the temperature sensor over a period of time during use.

Tarshiani teaches a lens forming apparatus wherein a temperature sensor is coupled with a controller for the purpose of adjusting the light generator according to the temperature sensed in the molding cavity (col. 6, lns. 11-16 and 21-25).

It would have been obvious to one of ordinary skill in the art at the time of the Applicant's invention to have modified the apparatus of Buazza and Baskerville as such to have provided

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the apparatus with a temperature sensor and controller as taught by Tarshiani et al. because this would allow for the adjustment of the light reaching the cavity based upon the temperature in the cavity.

It is noted that the controller of Tarshiani acts as such to turn on and off the light generator during use. Accordingly this reads upon the language of "adjusting a dose of initiating light..... over a period of time" as recited in claim 142 and "vary a duration of the light in response to the difference in temperature..... over a period of time" as recited in claim 144.

10. Claims 141-145 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buazza modified by Baskerville as applied to claims 95-99, 103-106, 148-152, and 156 above, and further in view of Buazza (US Pat. No. 5,928,575; previously of record). Buazza and Baskerville teach the system as described above. Buazza and Baskerville fail to teach a temperature sensor configured to measure changes in the temperature of the lens forming composition, and a controller being configured to adjust a dose of initiating light reaching the cavity as a function of the changes in the temperature of the lens forming composition measured by the temperature sensor over a period of time during use.

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Buazza (US '575) teaches an eyeglass lens curing system which comprises a temperature sensor and a controller, with the temperature sensor measuring changes in the temperature of the lens forming composition during use, and the controller configured to adjust the dose and intensity of the light reaching the cavity in response to the difference in temperature of the lens forming composition over time (see col. 44, lns. 28-47).

It would have been obvious to one of ordinary skill in the art at the time of the Applicant's invention to have modified the system of Buazza and Baskerville as such to have provided the system with a temperature sensor and controller as suggested by Buazza because this would allow for the adjustment of the dose and intensity of light reaching the cavity based upon the temperature in the cavity.

11. Claims 146 is rejected under 35 U.S.C. 103(a) as being unpatentable over Buazza modified by Baskerville and Tarshiani et al. as applied to claims 95-99, 103-106, 141-142, 144-145, 148, 150, and 156 above, and further in view of Coughanowr et al. (previously of record)

Buazza, Baskerville and Tarshiani teach the system as described and modified above. Buazza , Baskerville and Tarshiani

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fail to teach the controller working with the temperature sensor a proportional-integral-derivative (PID) controller.

The use of PID controllers is notoriously well known in the art as method of providing operating control. Coughanowr is cited as teaching basic PID control, and it's advantages over other methods of control (pgs. 120-121). As such, it would have been obvious to one of ordinary skill in the art at the time of the Applicant's invention to have modified the system of Buazza, Baskerville, and Tarshiani as such to have made the controller working with the temperature sensor a PID controller as suggest by Coughanowr because this would provide an efficient method for controlling the system.

12. Applicant's arguments filed July 22, 2002 have been fully considered but they are not persuasive.

Applicant argues that Buazza does not teach a light source emitting light have a wavelength greater than about 400 nanometers.

Buazza, as described above, teaches the light source to emit light at 300-400 nm. This anticipates the language of claim 95 which recites that the wavelength of the activating light is "greater than about 400 nm[.]" This language does not preclude

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the wavelength of light to be slightly below 400 nm, which would fall in the range taught by Buazza.

13. Claims 102, 154-155, and 158 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. See the reasons for indicating allowable subject matter in the previous Office Action.

14. Claims 147 and 191-199 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. See the reasons for indicating allowable subject matter below with respect to claims 159, 161, 163-171, 178-182, 186-188, and 200-202.

15. Claims 159, 161, 163-171, 178-182, 184-188, 200-202 are allowed.

16. The following is a statement of reasons for the indication of allowable subject matter:

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The prior art of record fails to teach or suggest a system for making an ophthalmic eyeglass lens comprising a first mold member and a second mold member which together define a mold cavity, a lens forming composition configured to be disposed within the mold cavity during use, the lens forming composition comprising a monomer that is curable in the mold cavity by exposure to activating light to form the eyeglass lens, a photochromic compound that absorbs at least a portion of the activating light in a first range during at least a portion of the curing of the monomer, and a photoinitiator that activates a co-initiator after being exposed to at least a portion of activating light in a second range during curing, wherein the co-initiator activates curing of the monomer to form the eyeglass lens and wherein the co-initiator facilitates curing of the lens forming composition and wherein the system further comprises a first light generator configured to generate and direct activating light at a wavelength in the second range toward at least one of the mold members to cure the lens forming composition and form the eyeglass lens.

The closest prior art taught by Buazza and Baskerville is described above. Buazza and Baskerville fail to teach the lens forming composition comprising a photochromic compound in


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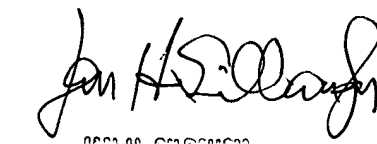
combination with the mold members and light generator as described above.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald Heckenberg whose telephone number is (703) 308-6371. The examiner can normally be reached on Monday through Friday from 9:30 A.M. to 6:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Jan Silbaugh, can be reached at (703) 308-3829. The official fax phone number for the organization where this application or proceeding is assigned is (703) 872-9310 for responses to non-final action, and 703-872-9311 for responses to final actions. The unofficial fax phone number is (703) 305-3602.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.


Donald Heckenberg
October 21, 2002


JAN M. SILBAUGH
SUPERVISOR
ART UNIT 1722
10/24/02